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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,885	10/14/2003	Oh-Dal Kwon	5000-1-444	4849
33942	7590	09/20/2005	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			WOOD, KEVIN S	
			ART UNIT	PAPER NUMBER
			2874	
DATE MAILED: 09/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,885

Applicant(s)

KWON ET AL.

Examiner

Kevin S. Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 16-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-11, 13-15 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

NON-FINAL REJECTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-15 in the reply filed on 8 August 2005 is acknowledged.
2. Claims 16-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8 August 2005.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **42,43,45**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the light blocking layer formed over a whole substrate (as claimed in claim 10) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5-9, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,904,209 to Okada et al.

Referring to claim 1, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses an optical hybrid module comprising: a substrate (2); an optical waveguide (3) formed on at least a portion of the substrate to perform a transmission of optical signals, the waveguide being adapted for connection with a plurality of optical devices (4,6); and a light blocking layer (37) formed to have an inclined profile at opposite sides of an end surface of an optical coupling portion centrally provided in the optical waveguide, the light blocking layer preventing light from entering the optical devices when coupled to the optical waveguide through regions other than the optical waveguide. See Fig. 1-12 of the reference along with their respective portions of the specification. The surface of the photoabsorbant black resin has a grade or slope, and is not vertical nor is it horizontal, therefore it meets the limitation of being an inclined surface.

Referring to claim 2, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses a plurality of devices (4,6) mounted on the substrate that are optically coupled to the optical waveguide (3). See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 3, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses an optical receiving device (6) optically coupled with the waveguide. See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 5, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the plurality of optical devices (4,6) are integrally formed on the substrate. See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 6, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the an end surface of the optical coupling portion (core) centrally provided in the optical waveguide is recessed within the cladding (35) relative to the light blocking layer (37) by having a groove for the core in the cladding. See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 7, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the end surface of the optical coupling portion centrally provided in the optical waveguide is protruded relative to the light blocking layer (37). See Fig. 6, 7, and 9, which clearly show the tip of the optical

waveguide, including the core (the central coupling portion of the waveguide), protruding from the light blocking layer.

Referring to claim 8, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the waveguide (3) comprises an end face surface of the core that is substantially perpendicular to the upper surface of the substrate (2). See Fig. 6, 7, and 9, which clearly show end face of the optical waveguide, including the core, being substantially perpendicular to the upper surface of the substrate.

Referring to claim 9, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the perpendicular end surface of the optical coupling portion (the core) is recessed within the cladding (35) relative to the position of the inclined surfaces of the light blocking layer (37). See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 13, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses an end surface of the optical coupling portion (core) centrally provided in the optical waveguide is recessed within a cladding (35) relative to the inclined surfaces of the light blocking layer (37). See Fig. 1-12 of the reference along with their respective portions of the specification.

Referring to claim 14, the Okada et al. reference discloses all the limitations of the claimed invention. The Okada et al. reference discloses the optical waveguide has a core (3) and a cladding (35) surrounding the core. See Fig. 8, 10, and 11, which clearly show these features.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,904,209 to Okada et al. in view of U.S. Patent No. 6,445,857 to Korenga et al.

Referring to claim 4, the Okada et al. reference discloses an optical hybrid module comprising: a substrate (2); an optical waveguide (3) formed on at least a portion of the substrate to perform a transmission of optical signals, the waveguide being adapted for connection with a plurality of optical devices (4,6); a light blocking layer (37) formed to have an inclined profile at opposite sides of an end surface of an

Art Unit: 2874

optical coupling portion centrally provided in the optical devices when coupled to the optical waveguide through regions other than the optical waveguide; a thin wavelength selective filter (5) at least partly within and somewhat perpendicular to the optical waveguide so as to reflect light of a predetermined wavelength transmitted through the optical waveguide, and permit passage of light having a different wavelength from the predetermined wavelength; an optical fiber (7); and a separate light source, such that the light from the optical fiber and from the separate light source enter the waveguide from separate paths; and wherein light entering the optical fiber from a first path and exiting the separate light source from a second path travel through the waveguide and are incident upon the thin wavelength selective filter. See Fig. 1-12 of the reference along with their respective portions of the specification. In col. 7, lines 15-22, the Okada et al. reference discloses that light from separate light source (station laser) is directed into the other end of the optical fiber. The Okada et al. reference does not appear to specifically disclose that the wavelength selective filter is a multi-layer thin film filter and that it is substantially perpendicular to the optical waveguide. The Korenga et al. reference discloses a multi-layer thin film filter (110) for wavelength selection, where the thin film filter allows transmits light having a first wavelength while reflecting light having a different wavelength. The Korenga et al. reference also discloses that the thin film filter is set substantially perpendicular to the optical waveguide (12). See Fig. 1-5 of the Korenga et al. reference along with their respective portions of the specification. Since the Okada et al. reference and the Korenga et al. reference are both from the same field of endeavor, the purpose disclosed by Korenga et al. would have been recognized in

the pertinent art of Okada et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a multi-layer thin film filter, set substantially perpendicular to the waveguide, as a wavelength selective filter for use in the Okada et al. device for the purpose of allowing a specific wavelength continue through the waveguide, while reflecting another wavelength towards the receiver (PD).

10. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,904,209 to Okada et al. in view of U.S. Patent No. 6,480,639 to Hashimoto et al.

Referring to claims 10 and 15, the Okada et al. reference discloses all the limitations of the claimed invention, except the Okada et al. reference does not appear to specifically disclose the light blocking layer formed over a surface of the waveguide, except for the optical coupling portion, and over a whole surface of the substrate. Hashimoto et al. discloses an optical module similar to that of the claimed invention (in Fig. 24) where the waveguides and the entire substrate are covered with a light blocking layer (8) for the purpose of eliminating stray light which causes unwanted optical crosstalk. See col. 17, lines 13-34 of the Hashimoto et al. reference. Since the Okada et al. reference and the Hashimoto et al. reference are both from the same field of endeavor, the purpose disclosed by Hashimoto et al. would have been recognized in the pertinent art of Okada et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the light blocking layer over a surface of the waveguide, except for the optical coupling portion, and over a whole

surface of the substrate for the purpose of eliminating stray light which causes unwanted optical crosstalk within the device.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,480,639 to Hashimoto et al.

Referring to claim 11, the Hashimoto et al. reference discloses an optical hybrid module comprising: a substrate (13); an optical waveguide (1a,2a) formed on at least a portion of the substrate to perform a transmission of optical signals, the waveguide being adapted for connection with a plurality of optical devices (30,31); and a light blocking layer (19) formed to have a vertical profile at opposite sides of an end surface of an optical coupling portion centrally provided in the optical waveguide, the light blocking layer preventing light from entering the optical devices when coupled to the optical waveguide through regions other than the optical waveguide. See Fig. 14A and Fig. 20 of the reference along with their respective portions of the specification. The Hashimoto et al. reference does not appear to specifically disclose the light blocking layer has an inclined profile at opposite sides of the end surface of the optical coupling portion centrally provided in the optical waveguide. The applicant has not disclosed the criticality of the inclined profile for the light blocking layer, instead the applicant has disclosed that the shape is used because it is easier to manufacture than the previously used vertical light blocking layer. The shape of the light blocking layer does not appear to be critical to the function of the invention as long as the light layer is preventing the stray light signals from entering the optical devices and causing unwanted optical

Art Unit: 2874

crosstalk. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the light blocking layer as an inclined surface or any other suitable shape, since it has been held that a mere change in shape involves only routine skill in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Allowable Subject Matter

12. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S. Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Kevin S. Wood", with a stylized flourish at the end.

Kevin S. Wood
Patent Examiner